

6.2.1.1 Determination of Volatile Component Removal Using the HMA.....	78
6.2.2 Wave Propagation Properties as a Function of Liquid Content....	79
6.3 Development of a Relationship Between Liquid Content and Wave Speed.....	81
6.3.1 Experimental Setup.....	82
6.3.2 Phase Velocity as a Function of Liquid Content.....	82
6.4 Summary.....	83
7. <b>Laboratory Evaluation of Simulated Internal Defects.....</b>	85
7.1 Damage and Decay in Timber.....	85
7.2 Decay Mechanisms in Wood.....	86
7.2.1 Fungal Decay.....	86
7.2.1.1 Brown Rot.....	87
7.2.1.2 White Rot.....	87
7.2.1.3 Soft Rot.....	87
7.2.2 Bacterial Decay.....	88
7.2.3 Marine Borer Attack of Wood.....	88
7.2.3.1 Teredinids (Shipworms).....	88
7.2.3.2 Limnoria.....	89
7.3 Simulation and Evaluation of Internal Defects.....	89
7.3.1 Experimental Setup and Drilling Process.....	89
7.3.2 Condition Assessment Using the Frequency Domain.....	91
7.3.2.1 Effect of Damage on Centroid and Dominant Frequency.....	92
7.3.2.2 Effect of Damage on the Attenuation Ratio.....	94
7.3.3 Condition Assessment Using the Time Domain.....	96
7.4 Summary.....	100